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Extension FactSheet

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Managing for Forest Songbirds

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Songbirds are a diverse group of species that includes crows, jays, wrens, chickadees, warblers, vireos, flycatchers, swallows, thrushes, tanagers, orioles, blackbirds, sparrows, and finches. Songbirds use a variety of habitats—from grasslands to shrubby, early-successional habitats to mature forests. However, each species has a unique set of habitat requirements based on its ecology and behavior. Of the nearly 200 birds that breed in Ohio, over half are associated with forest habitats. These birds provide many aesthetic, recreational, educational, and ecological benefits to the forests and the people that use them.

Over the past few decades, biologists and birdwatchers have become aware of long-term population declines in some species of songbirds. Of particular concern are Neotropical migratory birds—species that breed in North America and migrate to Central and South America and the Caribbean to spend the winter. Minimizing threats (such as deforestation and pesticide use) to Neotropical migratory birds is complex because their critical habitats range over the entire western hemisphere. However, in the United States we can manage breeding areas to provide suitable habitat that will allow birds to successfully raise their young. This fact sheet describes several ways that you can consider the needs of songbirds in your land management plan.

Forest Succession and Songbirds

Forests at different stages of succession will favor different species of birds. During forest succession a grassy field or harvested stand will eventually become a mature forest. Within a year or two after clearcutting or farm abandonment, the land will often have areas of bare soil and herbaceous vegetation, such as grass and forbs. As succession continues, woody shrubs, seedlings, and saplings invade the area, providing habitat for birds like gray catbirds, eastern towhees, and prairie warblers. As saplings grow, they usually will develop into dense stands of small trees that create too much shade to support many low-growing shrubs and plants. These young pole-sized forests may be the least productive for songbirds because they lack the shrubby growth of early-successional habitats but do not yet have many features associated with mature forests. Eventually, the forest matures and will usually have distinguishable understory, midstory, and canopy layers. Mature forest is used by birds like the scarlet tanager, ovenbird, red-eyed vireo, and wood thrush. Different successional stages have unique bird communities because many bird species are *habitat specialists* and will only be found in forests of one successional stage. However, others are *habitat generalists* and may occur in forests of any age.

Depending on the type of harvesting you use, you will be creating or maintaining different successional stages of forest and, as a result, favoring different groups of songbirds. For example, clearcut stands will attract birds that use shrubs and saplings but will not be frequently used by species that require mature forests. In contrast, harvesting methods that retain large numbers of overstory trees and a relatively intact canopy can usually still provide suitable habitat for many mature forest birds. From a songbird perspective, the "best" approach may depend on the availability of nearby habitat and the sensitive species in your area. For example, if you have one of the only large tracts of forest within several miles, then forest birds may rely heavily on your land for their habitat requirements. In such cases, an uneven-aged management approach that retains large numbers of canopy trees may be best. However, if your land is within a highly forested area, then a shrubby harvested stand produced by even-aged techniques might provide important habitat for birds associated with early-successional forests. Birds associated with both early- and late-successional forests are important from a conservation perspective.

Looking Beyond Your Forest Stand

In addition to requiring particular habitat components, birds also differ in the amount or location of the habitat they require.

Table 1. Examples of Breeding Songbirds Associated With Early-Successional and Mature Forests in Ohio.

Early-Successional Forest	Mature Forest
Gray Catbird	Eastern Wood Pewee
Brown Thrasher	Acadian Flycatcher
Blue-winged Warbler	Red-eyed Vireo
Yellow-breasted Chat	Yellow-throated Vireo
Chestnut-sided Warbler	Wood Thrush
Prairie Warbler	Cerulean Warbler
Common Yellowthroat	Worm-eating Warbler
Eastern Towhee	Ovenbird
Field Sparrow	Kentucky Warbler
Indigo Bunting	Scarlet Tanager

Some *area-sensitive species* require large amounts of land, whereas other species can live on small parcels of forest habitat. Many forest songbirds, such as wood thrush and scarlet tanager, are known to be area-sensitive. For example, in many parts of the Midwest, scarlet tanagers require more than 200 acres of mature forest to breed. In addition, location of habitat can also influence birds. Even if suitable habitat is available, some species will avoid using areas near a habitat edge (junction between two habitat types). Edges are often associated with higher amounts of nest predation and brood parasitism, fewer food resources for some species, warmer air and soil temperatures, drier conditions, and more wind than interior forest. Species that avoid using edges are often referred to as *interior* species and include many forest birds.

How to Incorporate Songbird Needs Into Your Forest Management Plan

Enhance vertical structure within the stand. Some birds forage or nest only in small saplings or shrubs, whereas others spend most of their time high in the forest canopy. By retaining trees, saplings, and shrubs in a variety of size classes, you can provide more vertical layers of forest and, as a result, more foraging and nesting opportunities for birds.

Keep forest buffers along streams. Riparian habitats perform critical ecological functions as well as provide habitat for a rich diversity of flora and fauna. There also is evidence that during migration songbirds prefer to move along wooded riparian corridors. In addition, some breeding birds (such as Louisiana Waterthrush) forage and nest only along forested streams and rivers. Leave buffer strips of unharvested trees along both sides of streams. Although buffers that are greater than 200–300 feet wide will have the greatest use by songbirds, leaving buffers that are at least 50 feet wide will provide some habitat and protect water quality.

Do not harvest all trees. Retain some live overstory trees in a variety of species and size classes. More birds will use harvested stands that contain residual trees because of the perching, nesting, and foraging opportunities they provide. In particular, retain trees that produce fruits, seeds, acorns, or nuts. A variety of songbirds will utilize these resources in both the autumn and winter. If you are especially concerned about resident species that remain on your land throughout the year, then retain small groups of conifers (such as pine and hemlock) for winter cover and a food source.

Retain decaying and standing dead trees (snags). Woodland owners are often encouraged to remove dead or decaying trees since they have little market value, but these trees are important to wildlife, especially because decay is a slow process. For wildlife use, snags should be greater than 8 inches in diameter at breast height (dbh). Leaving all standing dead trees is best for wildlife, but at least one large (greater than 18 inches dbh) cavity tree per few acres is needed for larger species that use cavities, such as wood duck, pileated woodpecker, and mergansers. A professional forester can evaluate any safety threats posed by a particular snag and then recommend actions that you can take to minimize the risk.

Create irregular edges when harvesting stands. Edges between very different habitats, like between a mature forest and agricultural land, are typically abrupt and high-contrast. These edges generally have more negative "edge effects" on forest songbirds than gradual edges. Gradual edges can be encouraged by allowing shrubs, saplings, and some overstory trees to remain along the harvest boundary. Edges also can be "feathered" by retaining more trees closer to the uncut forest and gradually fewer trees closer to the harvested area.

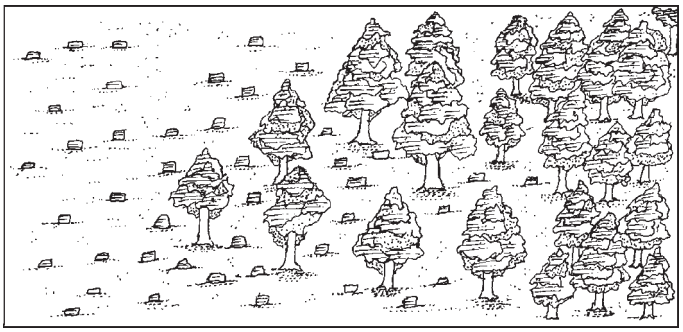

Figure 1 shows a feathered cut to the forest.

Leave large patches of forest close to other forest patches. If you are trying to manage for forest-associated species, then you need to consider forest patch size (how large a piece of habitat is) and the amount of isolation (how far that patch is from other patches). Both of these factors can strongly influence populations of area-sensitive forest birds. For example, small woodlots, which have a lot of edge relative to forest interior, generally have less diverse and abundant bird communities than in larger forest areas. As a result, landowners trying to manage for forest wildlife should try to harvest in a way to leave the largest patch size possible.

Maximize the forest interior area of unharvested stands. Forest interior is unbroken forest at least 200–300 feet from habitat edges and usually is positively related to the size of a patch of forest (that is, the larger the patch size, the more forest interior there is). To maximize the amount of interior forest, you can cut around the borders of a forest stand rather than fragment the stand into smaller blocks of forest. Also, circular and square-shaped forest patches retain more forest-interior than oblong, rectangular, or irregularly shaped patches.

Keep your cats inside. Believe it or not, cats pose serious threats to songbirds and other native wildlife in many urban, suburban, and rural areas. Cats can kill adult birds and nestlings and often destroy the eggs and nests of many species. Recent studies estimate that free-ranging cats may kill over 1 billion birds each year in the United States, making cats among the greatest sources of mortality for songbirds. Keeping your cats indoors will not only prevent predation of wild birds but also will reduce unwanted cat reproduction and the spread of disease.

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